

REMARKS

Claim Objections

In the Office Action mailed April 19, 2006, claims 18, 35, 60-61, 64, 67-68, and 71-72 were objected to for various informalities. Applicants are hereby amending these claims. As amended, the claims overcome the Examiner's objections.

Claim Rejections under § 112

In the Office Action mailed April 19, 2006, claims 1, 6, 11, 16-17, 19, 26, 46-48, 57 and 59 were rejected under 35 U.S.C. § 112, as being indefinite for failing to particularly point out and distinctly claim the subject matter Applicants' regards as the invention. Applicants are hereby amending claims 1, 11, 26, 46 and 57. Applicants submit these amendments overcome the Examiner's rejection of claims 1, 6, 11, 16-17, 19, 26, 46-48, 57 and 59 under 35 U.S.C. § 112.

Claim Rejections under § 102

Claims 1-5, 9, 11-15, 17, 19, 38-42, 44-45, 49-53, 55-56, and 58 have been rejected under 35 U.S.C. 102(a) as being anticipated by the admitted prior art – specifically, Applicants' Fig. 1 and the description thereof. As illustrated in Fig. 1, a primary combined signal is communicated from a centralized distribution center to a variety of headends (e.g., 20-1 to 20-n). At each headend, the primary combined signal is analyzed to generate bit rate conversion information. Accordingly, each headend requires analyzing logic (e.g., 20-k-2) for analyzing the primary combined signal to generate bit rate conversion information. Based on the bit rate conversion information generated at the headend, a controller at the headend determines whether to apply a bit rate conversion scheme to the primary combined signal before it is communicated as a secondary combined signal to a variety of subscriber equipment (e.g., set-top boxes).

Applicants' invention as claimed is not anticipated by Fig. 1 and the description thereof. According to Applicants' invention as claimed, the bit rate conversion information is generated at the distribution center and communicated with the primary combined signal to each headend. Consequently, there is no need for an analyzer at each headend to generate bit rate conversion information. Instead, a controller at each headend uses the bit rate conversion information received from the distribution center to determine whether to apply a bit rate conversation scheme.

Specifically, claim 1 states that bit rate conversion information is to be sent to multiple controllers that determine whether to apply bit rate conversion schemes. Because the bit rate conversion information is generated at the distribution center, the bit rate conversion information is sent to multiple controllers (e.g., at multiple headends) along with the primary combined signal. This is in contrast to the system described in Fig. 1. In the system of Fig. 1, the bit rate conversion information is generated by an analyzer at the headend and then provided to a single controller at the headend, which determines whether a processor is to apply a bit rate conversion scheme. Because the analyzer is located at the headend with the controller and the processor, the bit rate conversion information is not sent to multiple controllers. Instead, according to the prior art described in connection with Fig. 1, the bit rate conversion information is provided to the one controller that is at the headend. Consequently, claim 1 is not anticipated by Fig. 1 and the description thereof.

For the same reasons, claim 11 is not anticipated by Fig. 1 and the description thereof. Similar to claim 1, claim 11 refers to transmitting bit rate conversion information from a distribution center to multiple receivers (e.g., headends). Specifically, claim 11 recites “[i]n a distribution center configured to transmit a plurality of media streams to a plurality of receivers that determine whether to apply bit rate conversion schemes … analyzing the results of the appliance of the at least one bit rate conversion scheme to provide bit rate conversion information to be transmitted to the plurality of receivers.¹” Accordingly, the bit rate conversion information (generated at the distribution center) is to be transmitted to a plurality of receivers (e.g., headends), wherein each receiver is to determine whether or not to apply bit rate conversion schemes. The system described in connection with Fig. 1 does not transmit bit rate conversion information to a plurality of receivers. In the system of Fig. 1, each headend generates bit rate conversion information that is analyzed by a single controller located at the headend. Consequently, claim 11 is not anticipated by Fig. 1 and the description thereof. For the same reasons, dependent claims 17 and 19, which depend from claim 11, are not anticipated by Fig. 1 and the description thereof.

Claim 2 is not anticipated by Fig. 1 and the description thereof. Claim 2 refers to transmitting bit rate conversion information over a communication channel, wherein the communication channel is the same communication channel over which a sequence of media signals is to be transmitted. Again, this is in contrast to Fig. 1 and the description thereof. In the system of Fig. 1, the bit rate conversion information is generated by an analyzer at the headend, and then provided to a controller at the headend. Because the analyzer and controller are both

part of the headend, there is no need to transmit the bit rate conversion information over a communication channel – particularly a communication channel over which a sequence of media signals is to be transmitted.

The Examiner has suggested that the term “communication channel” is not defined, and that there is an inherent communication channel connecting the analyzer and the controller in the headend illustrated in Fig. 1. Therefore, according to the Examiner, transferring bit rate conversion information from the analyzer to the controller anticipates claim 2, which, as amended, states “transmitting at least a portion of the bit rate conversion information over the communication channel along with the sequence of media signals.” However, according to claim 2, the communication channel over which the bit rate conversion information is transmitted is the same communication channel over which the sequence of media signals is transmitted. That is, the communication channel referred to in claim 2 is the means by which the bit rate conversion information and the sequence of media signals are communicated from the distribution center to the headend. In the system illustrated in Fig. 1, a sequence of media signals is not transmitted from the analyzer to the controller. Instead, bit rate conversion information is provided to the controller, and, in turn, the controller provides instructions to the processor. The processor generates the secondary combined signal, based on the instructions provided. Accordingly, in the system of Fig. 1, bit rate conversion information is not transmitted over a communication channel that is also used for transmitting a sequence of media signals.

Further to the point, in rejecting dependent claim 3, the Examiner states “it is inherent that [a] portion of the bit rate conversion information (the results of the analysis) must be multiplexed (sent along with) with the sequence of media signal (a select digitized program) in order for both the bit rate conversion information and the sequence of media signals to be processed by controller 20-3-4.” However, this is not the case. According to the description of Fig. 1, the analyzer analyzes the media signal and passes the result (that is, the result of the analysis, not the media signal) to the controller. The controller determines whether a bit rate conversion technique should be applied based on the results of the analysis and bandwidth information. However, the controller does not perform the bit rate conversion technique or scheme. The processor does. Therefore, not only is it not inherently required that bit rate conversion information be multiplexed with a sequence of media signals, the prior art does not suggest or disclose that this is the case. Consequently, dependent claim 3 is not anticipated by Fig. 1 and the description thereof.

Furthermore, the Examiner's interpretation of a communication channel is inconsistent with how the term is used in Applicants' specification. Throughout the specification, the term "communication channel" is used to describe the means by which media signals and bit rate conversion information are communicated between a distribution center and a headend, or, a headend and a subscriber's equipment (e.g. set top box). The first sentence of the Background section states, "[i]nformation signals, such as media signals and especially compressed video and audio streams and packetized audio and video streams propagate over various communication channels, such as terrestrial, wireless, satellite and cable communication channels and the like." For at least the reasons above, claim 2 as amended is not anticipated by Fig. 1 and the description thereof. For the same reasons, dependent claims 3-5 and 9 are not anticipated by Fig. 1 and the description thereof.

Claim 12 is not anticipated by Fig. 1 and the description thereof. The Examiner has suggested that claim 12 is anticipated by Fig. 1 and the description thereof, on the same basis as the rejection of claim 2. Similar to claim 2, claim 12 refers to transmitting bit rate conversion information over the same communication channel over which a sequence of media signals is to be transmitted. The prior art (Fig. 1) does not disclose or suggest this. Again, the "inherent" communication channel (connecting the analyzer and the controller) in Fig. 1 to which the Examiner has referred is not used to transmit media signals. That is, no media signals are transmitted between the analyzer and the controller according to Fig. 1 and the description thereof. Consequently, claim 12 is not anticipated by Fig. 1 and the description thereof. For the same reasons, dependent claims 13-15 are not anticipated by Fig. 1 and the description thereof.

Independent claims 38 and 49, as amended, are not anticipated by Fig. 1 and the description thereof. Claims 38 and 49, as amended, are individually directed to "[a]n apparatus for generating and transmitting bit rate conversion information from a distribution center to a headend." Accordingly, claims 38 and 49 as amended make it clear that the bit rate conversion information is generated at a distribution center and transmitted to a headend. In contrast, the description of Fig. 1 describes a headend with an analyzer, controller and processor. According to the system of Fig. 1, a media signal is analyzed at the analyzer of a headend, and bit rate conversion information resulting from the analysis is supplied to a controller in the headend. The Examiner has suggested that there is an inherent communication channel "which must be included for transmitting the selected digitized program from an analyzer to a controller." However, this is not the case as the description of Fig. 1 does not disclose or suggest that a digitized program is transmitted from the analyzer to the controller. Instead, bit rate conversion

information is supplied to the controller. In any case, the description of Fig. 1 does not disclose or suggest communicating bit rate conversion information from a distribution center to a headend. Consequently, claims 38 and 49 are not anticipated by Fig. 1 and the description thereof. For the same reasons, dependent claims 39-42, 44-45 and 50-53, 55-56, 58, which depend from claims 38 and 49 respectively, are not anticipated by Fig. 1 and the description thereof.

Claims 2, 3 and 9 have been rejected under 35 U.S.C. 102(3) as being anticipated by U.S. Patent Publication No. 6,434,168 to Kari. According to Kari, a transmitting party or device compresses data using one of at least two available compression algorithms, selects the algorithm that provides the best compression, compresses the data with the selected algorithm, and then sends the compressed data to a receiving party or device. A header field in the data indicates what algorithm was selected at the transmitting device to compress the data. Accordingly, the receiving device can decompress the data using the correct algorithm. In any case, according to Kari, compressed data is communicated from a transmitting device to a receiving device.

In contrast, claim 2 refers to generating bit rate conversion information to be sent with a sequence of media signals (e.g., uncompressed or unconverted). The bit rate conversation information allows a receiving device to select the best bit rate conversion scheme to be used for converting a media signal that is to be sent to a set top box. Accordingly, the decision as to what bit rate conversion scheme to use is made at the receiving device, for example, a headend. Specifically, claim 2 as amended states, “transmitting at least a portion of the bit rate conversion information over the communication channel along with the sequence of media signals.” Kari discloses that a compression algorithm is indicated in a header of compressed data when communicated to a receiving device. Because Kari does not disclose transmitting at least a portion of the bit rate conversion information over the communication channel along with the sequence of media signals, Kari does not anticipate claim 2. For the same reasons, Kari does not anticipate dependent claims 3 and 9.

Claim Rejections under § 103

Claims 6, 16, 43, 54 and 65 have been rejected under 35 U.S.C. 103(a) as being obvious in view of admitted prior art (Fig. 1 of Applicants’ specification) and U.S. Patent No. 6,181,711 to Zhang et al. (hereinafter, “Zhang”). As dependent claims 6, 16, 43 and 54 are dependent upon claims 1, 12, 38 and 49 respectively, Applicant submits that these dependent claims are not obvious for the same reason that the independent claims are not anticipated by admitted prior art.

The rejection of dependent claim 65, which is dependent upon claim 60, is addressed below along with the discussion of claim 60.

Claims 26, 72 and 73 have been rejected under 35 U.S.C. 103(a) as being obvious in view of admitted prior art (Fig. 1 of Applicants' specification) and U.S. Patent No. 6,038,256 to Linzer et al. (hereinafter "Linzer"). As amended, claim 26 states, "receiving, at a headend, the sequence of media signals, bandwidth information and bit rate conversion information, wherein the media signals and the bit rate conversion information are received over a communication channel from a distribution center." The system illustrated in Fig. 1 generates bit rate conversion information at the headend. In contrast to claim 26, a system consistent with admitted prior art does not receive media signals and bit rate conversion information from a distribution center. Consequently, claim 26 is not obvious in view of Fig. 1 and the description thereof, and Linzer.

As amended, claim 72 is directed to "[a]n apparatus for modifying a bit rate of a sequence of media signals, based on bit rate conversion information received from a distribution center, such that the bit rate of the sequence of media signals does not exceed an available bandwidth of a communication channel..." Accordingly, claim 72 is directed to an apparatus (e.g., a headend) that receives (at the controller) bit rate conversion information. In contrast, the headend of Fig. 1 generates its own bit rate conversion information. Consequently, claim 72 as amended is not obvious in view of Fig. 1 and Linzer. Because claim 73 is dependent upon claim 72, claim 73 is also not obvious in view of Fig. 1 and Linzer.

Claims 29, 35, 46-48, 57 and 59 have been rejected under 35 U.S.C. 103(a) as being obvious in view of admitted prior art (Fig. 1 of Applicants' specification) and U.S. Patent No. 6,434,168 to Kari. (hereinafter "Kari"). As amended, claims 29 and 35 state that bit rate conversion information and a sequence of media signals are received at a headend from a distribution center. In contrast, the system of Fig. 1 describes a headend that generates bit rate conversion information. That is, the system of Fig. 1 does not receive bit rate conversion information from a distribution center, as is claimed in claims 29 and 35. Consequently, Applicants submit that claims 29 and 35 are not obvious in view of Fig. 1 and Kari. As dependent claims 46-48, and 57 and 59 depend from independent claims 38 and 49 respectively, those dependent claims are not obvious for the same reasons that claims 38 and 49 are not anticipated by Fig. 1 and the description thereof.

Claim 71 has been rejected under 35 U.S.C. 103(a) as being obvious in view of admitted prior art (Fig. 1 of Applicants' specification). Fig. 1 and the description thereof do not render claim 71 obvious. Fig. 1 illustrates a system having a headend where bit rate conversion information is generated based on analysis of a media signal at the headend. That is, the headend analyzes the media signal and generates the bit rate conversion information. Claim 71 involves an apparatus that receives a media signal with embedded bit rate conversion information. For example, an initial analysis has already been done when the media signal is received at the apparatus. This enables the apparatus to modify the bit rate of a media signal based on the received bit rate conversion information and the available bandwidth of a communication channel connecting the apparatus to a customer's device. Consequently, claim 71 is not obvious in view of Fig. 1.

Finally, claims 60-64 and 67-70 have been rejected under 35 U.S.C. 103(a) as being obvious in view of admitted prior art (Fig. 1 of Applicants' specification) and U.S. Patent No. 6,937,323 to Worthington et al. (hereinafter, "Worthington"). Claim 60 is not obvious in view of Fig. 1 and Worthington. Claim 60 is directed to an apparatus for modifying a bit rate of a sequence of media signals "wherein the bit rate conversion information is provided from a central analyzer to multiple controllers." This is not the case with the system of Fig. 1. In the system of Fig. 1, the bit rate conversion information is generated locally at a headend (by an analyzer). After the bit rate conversion information is generated at the headend, it is provided to a controller at the headend. That is, the bit rate conversion information is provided to ONE controller. In contrast, claim 60 is directed to a method wherein bit rate conversion information is generated at a central analyzer and distributed to multiple controllers. Consequently, claim 60 is not obvious in view of Fig. 1 and Worthington. For the same reasons, claims 61-64 and 67-70 are not obvious in view of Fig. 1 and the description thereof.

Applicants submit that all of the objections and rejections raised by the Examiner have been addressed and overcome. Allowance of the claims as presented herein is respectfully requested.

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Respectfully submitted,
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